REMARKS

Favorable reconsideration of this application is respectfully requested in view of the amendments above and the following remarks. By virtue of the amendments above, Claims 1, 11, and 12 have been canceled and Claims 2, 7, 9, 10, 13, 14, 16, and 17 have been amended. Therefore, Claims 2-10, and 13-27 are currently pending in the present application, of which, Claims 2, 7, 13, 16, 17, and 19 are independent.

No new matter has been introduced by way of the claim amendments and entry thereof is therefore respectfully requested.

Information Disclosure Statement

The Applicants note with appreciation the indication that the references cited in the Information Disclosure Statements filed on June 18, 2001 and February 19, 2003 have been considered.

Allowable Subject Matter

The Applicants note with appreciation the indication that Claims 2-10, 13-18, and 20-26 are allowable over the prior art of record. The Official Action fails to state whether Claim 27 is also allowable over the prior art of record. It is believed that Claim 27 is also allowable because Claim 27 depends from allowable Claim 26 and because the Official Action has not rejected Claim 27 as being unpatentable.

By virtue of the amendments above, Claims 2 and 7 have been amended to incorporate all of the features of canceled Claim 1. In addition, Claims 13, 16, and 19 have been amended to incorporate all of the features of canceled Claim 12. Therefore, it is

respectfully submitted that Claims 2, 7, 13, 16 and 17 and the claims that depend therefrom are allowable over the cited prior art of record.

At this time, the Applicant believes the remaining claims are also allowable over the prior art of record and thus have opted to not amend these claims into independent form. Applicant, however, reserves the right to amend these claims in the future.

Objections to the Drawings

The Official Action sets forth an objection to the drawings as failing to show various elements described in the specification. More particularly, the Official Action states that "h_2^c" and "h_3^c" are not illustrated in the drawings. Although Applicants believe that one of ordinary skill in the art would readily understand where these elements would be included in Figure 2, the Applicants submit herewith a Request for Drawing Correction. As shown, "H_i^c" and "h_i^c" are illustrated in corrected Figure 2.

The Official Action also states that the drawings fail to show the "capture module 103". The recitation of the capture module 103 has been canceled from page 6, line 32 of the specification and therefore does not require illustration in the figures.

The Official Action further sets forth an objection to the drawings as including reference signs not mentioned in the description. More particularly, the Official Action states that the "final image 130" shown in Figure 4 was not described in the specification. By virtue of the amendments above, the paragraph that begins on page 7, line 8 has been amended to include the "final image 130".

The Official Action also states that the "start 150" was not mentioned in the specification. By virtue of the Request for Drawing Correction submitted herewith, Figure 7 has been amended to remove reference numeral 150.

The Official Action further states that two reference characters are described to designate block 134 of Figure 5. Corrected Figure 5 is submitted herewith and includes an amendment to block 134 to "$i > p$?".

At least by virtue of the amendments in the proposed drawing corrections submitted herewith and the specification, the Applicants respectfully request that the objections to the drawings be withdrawn. No new matter has been introduced by way of these amendments.

Claim Rejection Under 35 U.S.C. §112, second paragraph

The Official Action sets forth a rejection of Claims 2, 4-7, 15, 16, 18, 21, 22, and 24-27 as allegedly being indefinite. Although the Official Action states reasons for rejecting certain of the claims as being indefinite, the Official Action does not state reasons as to why the remaining claims or the language contained therein is indefinite. Thus, the Applicants are unable to clearly determine the nature of the rejections and therefore are unable to meaningfully reply to all of the rejections listed in the Official Action. The Applicants respectfully request that the Examiner provide proper reasons for rejecting these claims in any future communication. The Applicants have, however, attempted to respond to all of the rejections that could reasonably be understood to further prosecution of the present application.

With regard to Claim 2, it is respectfully submitted that the disclosure clearly indicates that the equation E(u) represents the variational problem. This can be seen in the second labeled page two of the specification as amended above. In addition, Claim 2 now recites "...the following variational problem:...", which clearly indicates that the equation E(u) corresponds to the variational problem.

The Official Action apparently states that there is insufficient antecedent basis for "'theta' in line 4" and for "'phi' in line 7." This rejection is incomprehensible because Claim 2 only contains 5 and there is no theta (9) in line 4. This rejection is therefore improper as Applicants have no meaningful way of responding to this rejection.

With regard to Claims 4 and 15, u[k,j] corresponds to the image as indicated in Claims 2 and 13. As is well known in the field of image processing, an image is made-up of a plurality of pixel values. These pixel values are often designated by their pixel location within the image data. Hence, the term u[k,j] refers to the pixel value at the k,j pixel location for the image, u.

$u_{final}[k,j]$ refers to the final output image obtained from averaging the resulting image data solutions $u_{small}[k,j,]$ and uhigh[k,j]. (see, e.g., page 10, lines 1-10). $u_{small}[k,j]$ and $u_{high}[k,j,]$ are obtained by solving the original Equation 5 (page 4, lines 8-9) with two different values for α, which is defined as a non-negative real number in Claims 2 and 13. The solution of Equation 5 with a small α is denoted $u_{small}[k,j]$ and the solution of Equation 5 with a high α is denoted $u_{high}[k,j,]$. (see page 10, lines 1-4).

With regard to Claims 5, 6, 18, 21, 22, 24, 26 and 27, the Official Action merely cites a number of elements contained in these claims, but does not provide any reasons for rejecting these claims. Therefore, the Applicants cannot reasonably determine the bases for these rejections. More particularly, for what reasons does the Examiner believe these claims are indefinite? Accordingly, the Applicants are unable to meaningfully respond to the rejection of Claims 5, 6, 18, 21, 22, 24, 26 and 27.

With regard to Claim 7, Claim 7 now recites "...the following variational problem:...", which clearly indicates that the equation E(u) corresponds to the variational problem. Claim 7 has also been amended to include some of the text from Claim 2.

With regard to Claim 16, the rejection set forth in the Official Action is not completely understood because Claim 16 does not include the language alleged in the Official Action. More particularly, Claim 16 does not state a space varying algorithm nor a variational problem. Instead, Claim 16 recites that "the image difference problem is represented by:" the equation "E(u)". Therefore, the Applicants cannot comprehend the basis for this rejection.

With regard to Claim 25, Claim 25 now recites "...the following variational problem:...", which clearly indicates that the equation E(u) corresponds to the variational problem.

As all of the rejections to the claims have been addressed hereinabove, the Examiner is respectfully requested to withdraw the rejections of these claims as failing to comply with the provisions of 35 U.S.C. § 112, second paragraph.

Claim Rejection Under 35 U.S.C. §102

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. § 102, is whether the reference discloses all the elements of the claimed combination, or the mechanical equivalents thereof functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals for the Federal Circuit in *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. § 102, the Court stated:

> Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.

Therefore, if the cited reference does not disclose each and every element of the claimed invention, then the cited reference fails to anticipate the claimed invention and, thus, the claimed invention is distinguishable over the cited reference.

Claims 1, 11, 12, and 19 have been rejected under 35 U.S.C. §102(e) as allegedly being anticipated by the disclosure contained in U.S. Patent No. 6,646,762 to Balasubramanian et al. Claims 1, 11, and 12 have been canceled without prejudice or disclaimer of the subject matter contained therein and thus the rejection of Claims 1, 11, and 12 is now considered moot. With respect to Claim 19 and the claims that depend therefrom, however, it is respectfully submitted that these claims are not anticipated by the disclosure contained in Balasubramanian et al. for at least the following reasons.

Balasubramanian et al. pertains to a gamut mapping method designed to preserve spatially local luminance differences. In this regard, Balasubramanian et al. discloses a gamut mapping function 24 that serves to map pixels defined by colors that are outside of a printer's gamut. The unprintable colors are mapped to printable colors according to a scheme that attempts to optimize retention of color relationships. (column 4, lines 57-65). Balasubramanian et al. also discloses a gamut mapping function G1 defined as being represented by "an optimized non-linear function, or a simplistic mapping function, where out of gamut pixels are moved to the nearest "in gamut" plane." (column 5, lines 33-36). A second gamut mapping function G2 is also disclosed as being the same or different from the gamut mapping function G1. In column 6, Balasubramanian et al. further lists a number of various mapping functions for the gamut mapping functions G1 and G2.

The present invention as set forth in Claim 19 contains features that are not disclosed in the Balasubramanian et al. disclosure. For instance, Balasubramanian et al. does not disclose that an image pyramid is constructed from an input image as set forth in Claim 19 of

the present invention. In additon, Balasubramanian et al. does not disclose that each resolution layer is processed, which includes completing a gradient iteration. Moreover, Balasubramanian et al. does not disclose that an output image is computed through use of the processed resolution layers.

As noted above, Balasubramanian et al. fails to disclose each and every element of the claimed invention as set forth in Claim 19 and therefore fails to the test for anticipation. It is therefore respectfully submitted that Claim 19 and the claims that depend therefrom are allowable over the disclosure contained in Balasubramanian et al.

Conclusion

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

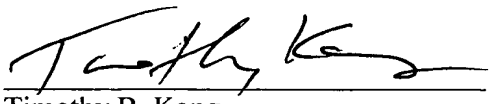
Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below. Please

grant any required extensions of time and charge any fees due in connection with this request to deposit account no. 08-2025.

Respectfully submitted,

Ron Kimmel et al.

Dated: February 20, 2004

By 

Timothy B. Kang
Registration No. 46,423

MANNAVA & KANG, P.C.
2930 Langdon Gate Drive
Fairfax, VA 22031
(703) 560-8503
(703) 991-1162 (fax)